

about 1000 lb. per square inch due to the piston load. The stress allowed upon the column-bolts is 3000 to 3500 lb. per square inch for the connection to the cylinders, and from 2500 to 3000 lb. per square inch at the foot for the connection to the bedplate.

Bedplate.—The bedplate is usually made of cast iron built up of several sections which are bolted together with heavy flanges. It contains

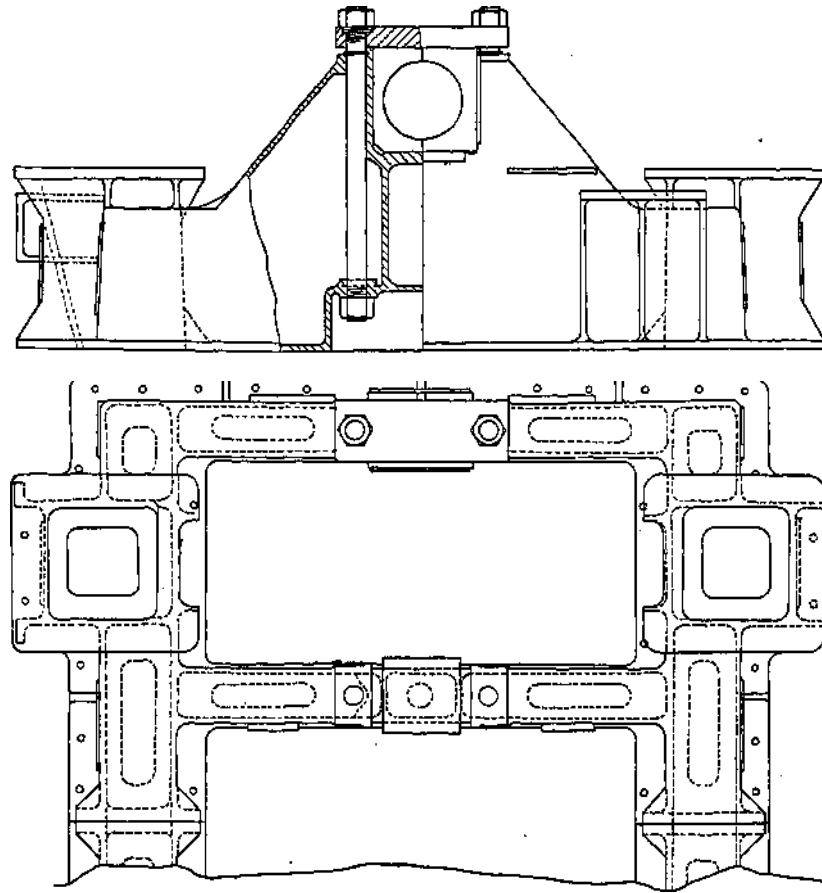


Fig. 29.—Marine-engine Bedplate showing Sectional View of Main Bearing

the facings for the foot of the columns, the bearings and the joints being arranged between the columns so that each section of the bedplate is self-contained, and takes its own share of the stresses caused in each line of moving parts by the steam loads. The main principle of the design is very simple. Each bearing is carried in a cross-member which acts as a girder. The thickness of metal is fixed by practical considerations, and as the depth at the centre is sufficiently great to give a reasonable clearance between the working parts, when at the bottom of the stroke, and the foundation of the

engine, the bedplate is exceedingly rigid and strong. The main bearings